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Notable characteristics

Lead has a dull luster and is a dense, ductile, very soft, highly malleable, bluish-white metal that has poor electrical conductivity. This true metal is highly resistant to corrosion. Because of this property, it is used to contain corrosive liquids (e.g. sulfuric acid). Lead can be toughened by adding a small amount of antimony or other metals to it. Lead is the only metal in which there is zero Thomson effect. Lead is also poisonous. All lead, except ²⁰⁴Pb, is the end product of a complex radioactive decay (see isotopes of lead below).

History

Lead has been commonly used for thousands of years because it is widespread, easy to extract and easy to work with. It is highly malleable and ductile as well as easy to smelt. In the early Bronze Age lead was used with antimony and arsenic. Lead was mentioned in the Book of Exodus (15:10). Alchemists thought that lead was the oldest metal and associated it with the planet Saturn. Lead pipes that bear the insignia of Roman emperors

(more)	2nd: 1450.5 kJ·mol ^{−1}				
	3rd: 3081.5 kJ·mol ^{−1}				
Atomic radius	180 pm				
Atomic radius (calc.)	154 pm				
Covalent radius	147 pm				
Van der Waals radius	202 pm				
Miscellaneous					
Magnetic ordering	diamagnetic				
Electrical resistivity	(20 °C) 208 n Ω·m				
Thermal conductivity	(300 K) 35.3 W·m ^{−1} ·K ^{−1}				
Thermal expansion	(25 °C) 28.9 μm·m ^{−1} ·K ^{−1}				
Speed of sound (thin rod)	(r.t.) (annealed) 1190 m·s ^{−1}				
Young's modulus	16 GPa				
Shear modulus	5.6 GPa				
Bulk modulus	46 GPa				
Poisson ratio	0.44				
Mohs hardness	1.5				
Brinell hardness	38.3 MPa				
CAS registry number	7439-92-1				
Selected isotopes					
Main article: Isotopes of lead					
iso	NA	half-life	DM	DE (MeV)	DP
²⁰⁴ Pb	1.4%	>1.4×10 ¹⁷ y	Alpha	2.186	²⁰⁰ Hg
²⁰⁵ Pb	syn	1.53×10 ⁷ y	Epsilon	0.051	²⁰⁵ Tl
²⁰⁶ Pb	24.1%	Pb is stable with 124 neutrons			
²⁰⁷ Pb	22.1%	Pb is stable with 125 neutrons			
²⁰⁸ Pb	52.4%	Pb is stable with 126 neutrons			
²¹⁰ Pb	trace	22.3 y	Alpha	3.792	²⁰⁶ Hg
			Beta	0.064	²¹⁰ Bi
References					

